Abt Associates Inc.

The Growing Importance of Ukraine As A Transit Country for Heroin Trafficking

U.S.-Ukraine Research Partnership

Final Report

June 2002

Prepared for
National Institute of Justice
International Center

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Acknowledgements

The authors wish to acknowledge James Finckenauer, Director for the International Center, National Institute of Justice, for his vision and leadership on this project. Special thanks to Sergey Chapkey, Senior Associate, Abt Associates for facilitating e-mail access between the Americans and their Ukrainian research partners. Additionally, we would like to thank Jennifer Shrock, International Program Specialist, National Institute of Justice, for her excellent project oversight and Kate Zuzina, Rule of Law Foundation for her able and cheerful assistance. Layne thanks the other American researchers for their support and friendship: Donna Hughes, University of Rhode Island, Jay Albanese, Virginia Commonwealth University, James Picarelli, American University, and Phil Williams, University of Pittsburg. Finally, Layne would like to express her gratitude to her Ukrainian research partners, Anatoly.A. Musyka and Mykola.S. Khruppa, for their hospitality while she was in Ukraine.

Preface

This research was funded by the U.S. - Ukraine Research Partnership project, which began in November of 1999 when an agreement was signed between the National Institute of Justice (NIJ) and the Ukrainian Academy of Law Sciences (UALS). This partnership program was an integral part of the Gore-Kuchma Binational Commission, established in September 1996 to solidify the close ties between Ukraine and the United States. The increasingly global character of crime has created a mutual incentive for cooperation between the U.S. and Ukraine.

In June of 1999, requests for proposals in the U.S. and Ukraine were concurrently announced by both NIJ and UALS. The proposals were to address the following crime areas: organized crime, corruption, drug trafficking, human trafficking, and economic crimes. The proposals were competitively reviewed by an expert working-group made up of both U.S. and Ukrainian representatives. The result was five U.S.-Ukrainian research teams, composed of twenty-two Ukrainian and five U.S. members. The size of each individual U.S.- Ukrainian team ranges from ten to three researchers. These teams met for the first time in November 1999 at a "kick-off" conference in Kiev, Ukraine. The greatest accomplishment of the conference was that researchers began the process of overcoming communication barriers and divergent methodological approaches to formulate a joint plan for their research.

For this research, Layne worked with two Ukrainian research partners to jointly develop this paper. Khruppa was responsible for collecting Ukrainian data for the report and Muzyka supplied legislative expertise and background. Layne traveled to Ukraine (Kyiv and Kharkiv) four times over the course of two years and her Ukrainian counterparts came to the U.S. once. It was a challenge to collaborate across distance and language barriers, but a warm, collegial relationship developed and were maintained despite these obstacles.

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1. Introduction

The division among producer, transit, and consumer states of illicit drugs has clearly broken down since the late 1980's. The 1990's produced a globalization of illicit drug markets, with at least 134 countries and territories facing drug abuse problems in the 1990's. Seventy-five percent of all countries report the abuse of heroin and two-thirds the abuse of cocaine. Whereas previously Western Europe and the U.S. were the primary consumers of heroin, there has been a dramatic increase in heroin addicts in countries that previously had no problem, e.g., Pakistan and Iran. At the global level, heroin and cocaine are the most significant drugs in terms of treatment demands, drug mortality, and drug related violence, including organized crime.

Opiates are the primary problem drugs in Western and Eastern Europe. On average, opiates account for three quarters of all treatment demand, and are also responsible for the large majority of drug-related mortality and morbidity cases.

In the years since its independence, Ukraine has become a significant conduit for Southwest Asian (Afghanistan and Pakistan) heroin bound for European markets. The volume of Southwest Asian heroin available for world markets has increased sharply in recent years and growing amounts are smuggled through Ukraine. Porous borders, understaffed and under funded counter-narcotics entities and the rise of organized crime syndicates have enabled traffickers to utilize Ukraine as a viable transit point. Further, Ukraine has become an opiate producer in its own right, cultivating approximately 300 new hectares of illicit poppy in 2000 (Khruppa).

Countries on trafficking routes can suffer from drug usage problems, since traffickers often pay intermediaries with in-kind drug product. There is often a concomitant increase in property crime and prostitution, as users struggle to finance their drug consumption. As addiction, and especially trafficking, lead to increased crime and violence, more and more public resources must be channeled into law enforcement.

Ukrainian law enforcement entities responsible for anti-narcotics work are poorly coordinated, relatively inexperienced, understaffed, and under-funded. The U.S. Customs Service and the Drug

Enforcement Administration have conducted anti-drug training programs in Ukraine in the areas of interdiction, border control, and money laundering. These activities have been largely tactical.

This research had several goals. The first was to identify smuggling routes both from producer countries and in Ukraine. We wanted to identify types of drugs smuggled, routes taken, and conveyances employed. Additionally, we wanted to provide a methodology and estimate of the magnitude of amount of heroin transiting Ukraine. Creating a consistent yearly estimate of these amounts is the a valuable means of measuring the demand for, and effectiveness of, anti-narcotic activities over time.

M.S. Khruppa supplied some data for this research, nonetheless, obtaining data from Ukrainian sources proved to be problematic, despite teaming with Ukrainian researchers. Much of the data reported here comes from non-Ukrainian sources. Data sharing proved to be the biggest challenge of the project, but there was successful collaboration with the Ukrainian researchers that could be exploited for future work. This serves to highlight the benefits and obstacles of this kind of partnering effort.

2. Background

In the eleven years between 1989 and 1999, Ukraine underwent a sharp increase in the rate of overall crime[1]. Concomitant with this, Ukraine experienced the criminalization of its economy in the form of organized crime and its activities (e.g., trafficking in illicit drugs and trafficking in women for the sex industry). There was also a spread of corruption among government officials as they became less accountable (Fogelsong, 2001).

Ukraine adopted a new constitution in 1996 that opened the door for radical legal and judicial reform. It articulated an increase in civil liberties and instituted new court structures and procedures that represent deep changes in the organization of the judiciary and criminal procedure. However, judicial reform has been slow to occur because there is not political willpower or public pressure for such reform. The Supreme Court and the Ministry of Justice both lack the legislative initiative and are at a stalemate over reform issues (Fogelsong, 2001).

Corruption remains a major problem hampering the investment climate and economic reforms. It has an impact on the effectiveness of efforts to combat organized crime, which is heavily involved in the narcotics business. Accordingly, the Ukrainian government has adopted a set of laws and decrees to combat corruption. The president signed the latest anticorruption decree in November 2000.

The fall of Communist regimes and the end of tight border controls have attracted foreign criminal organizations. International criminal activity increased rapidly in the early 1990s as Ukraine's new democratic government focused on fundamental political, social and economic problems.

Scope of the Drug Problem in Ukraine

International organized crime groups have exploited relatively weak law enforcement and loose border controls to replace traditional points of entry into Western Europe, where customs and law enforcement have become stronger. Ukraine is at a strategic crossroads between Southwest Asia (the primary heroin producing region) and markets in Western Europe. (Appendix A provides detailed

[1] This phenomena is not unique to Ukraine, as all former Soviet republics also experienced an increase in crime.

information concerning heroin-producing countries). Ukraine has transparent borders with its neighboring states of Russia, Moldova, and Belarus. Of the 1,500 roads connecting Ukraine with its contiguous states in the north, east, and southwest, only 98 have Customs facilities (State Customs Service of Ukraine). Smugglers can travel virtually unfettered into and out of Ukraine.

Drug Abuse

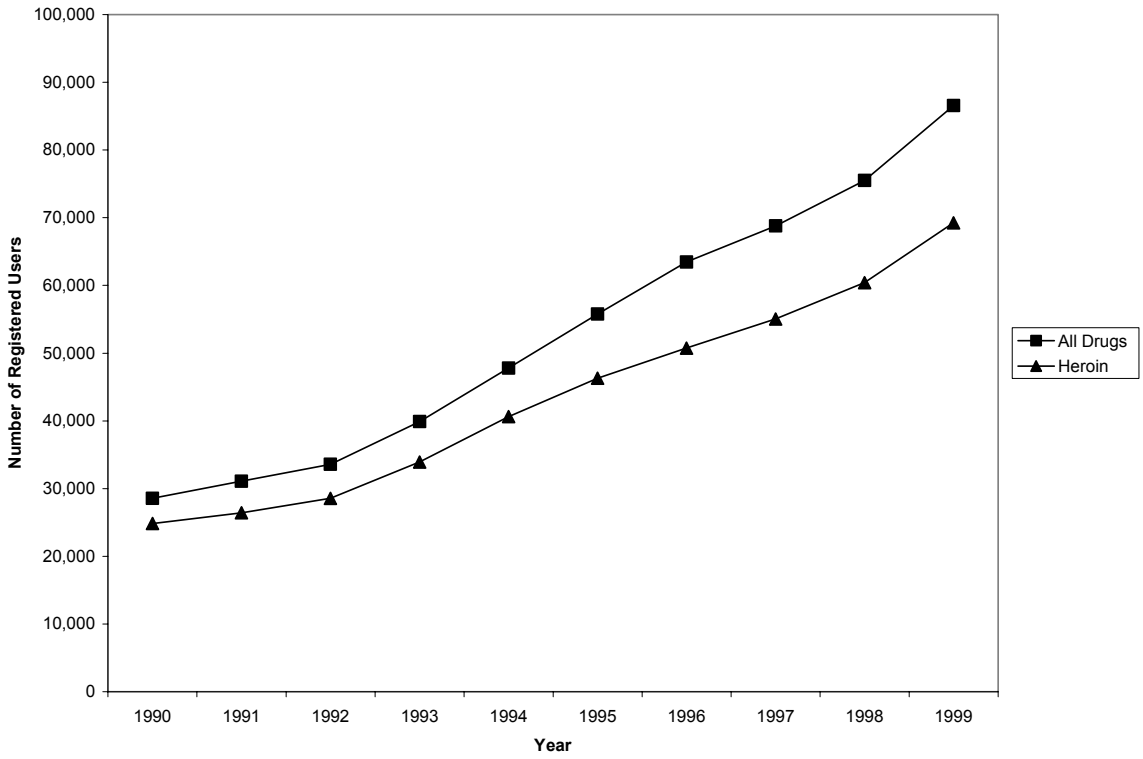
Drug abuse in Ukraine has been on the rise since 1990. According to the Ministry of Public Health of Ukraine (PHM), there has been a three-fold increase in the number of registered drug users[2]. Figure 1 shows this trend, where the upper line represents all drug users and the lower line represents heroin users. Figure 1, below, also indicates that heroin is not the only drug consumed in Ukraine. In fact, this gap is widening.

There has been a growing tendency towards abuse of synthetic drugs, such as amphetamine-type stimulants (ATS) and within this group, methylenedioxymethamphetamine (MDMA), better know by its street name, "ecstasy". The broad range of different ATS makes the use of various combinations an increasingly common feature. Further complicating the issue is the notion that ATS do not cause lasting harm. In 2000, 76 percent report being addicted to ATS, 12 percent to heroin, 9 percent to cocaine, and 3 percent to LSD (Khruppa, 2000). There has been a dramatic increase in the number of women and juveniles addicted to drugs, causing great concern. Marijuana is getting more popular with young people, as are synthetic drugs.

[2] In 1999, the number of unregistered users is estimated to be more than three times registered number (United States Department of State, 2000).

Figure 1

Number of Registered Drug Users in Ukraine



High prices for heroin and cocaine have drawn many Ukrainian drug users to domestically cultivated poppy straw. The Ministry of the Interior reports a rise in the cultivation and consumption of poppy straw[3] in the country, grown primarily in western and northern Ukraine. As part of this research, Khruppa undertook a census of illicit poppy fields, by oblast. Figure 2 shows the oblasts he surveyed and Table 1 provides the count of hectares devoted to illicit poppy growth, by oblast.

[3] Opium poppy is cultivated for opium, seeds, and straw (stems, poppy heads). Production of opium narcotics from poppy straw is very simple and consists of extracting opiates with boiling water. The obtained decoction can be used for further processing or consumption after separation of solid bodies. After evaporation, the alkaloid residue is dissolved in solvent "nitro" or chloroform. Then the organic solvent is evaporated and the product thus obtained is mainly composed of morphine and codeine, and a small amount of other opium narcotics. By adding acetic acid anhydride or concentric acetic acid, acetyl derivatives of morphine are obtained. The final product is a mixture of opium narcotics and their acetyl derivatives.

Figure 2

Location of Illicit Poppy Fields

Table 1

Illicit Poppy Cultivation in Ukraine, September 2000

Oblast	Hectares Under Cultivation
1: Vinnyts'ka	33.3
2: Volyns'ka	7.9
3: Zhtomyrs'ka	4.3
4: Ivano-Frankivs'ka	30.6
5: Kyyivs'ka	17.3
6: L'vivs'ka	31
7: Rivnens'ka	15.9
8: Ternopil's'ka	37.9
9: Khmel'nyts'ka	56.2
10: Cherkas'ka	66.8
Total	**301.2**

Source: M.S. Khruppa

Ukrainian officials are trying to reduce drug demand through preventive actions, especially at schools. Drug information centers have been opened in the cities with the highest levels of drug abuse. A number of rehabilitation programs have been conducted throughout the country by NGOs with the assistance of international institutions.

Anti-Drug Law Enforcement Mechanisms

Ukraine is a party to the 1988 United Nations Drug Convention, and follows the provisions of the convention in enacting anti-narcotics legislation. Combating narcotics trafficking continues to be a national priority for law enforcement bodies, though insufficient funding seriously hinders Ukrainian efforts.

According to preliminary statistics for the first 11 months of 2000 (U.S. Department of State, 2001), approximately 41,657 criminal cases involving narcotics were prosecuted, a minor increase over 1999's figures. About 20,107 people have been confined during the first 11 months of 2000 for drug-related offenses. Approximately 30,535 persons were administratively fined for minor drug-related violations, a one-third increase over 1999's figures. Unemployed persons under the age of 30 committed most crimes connected with drugs.

In the last five years the Ukrainian parliament has passed a package of drug control laws that constitute a solid legal basis for combating narcotics effectively. Ukrainian law enforcement officials praise the drug control legislation for being an effective tool in drug enforcement.

Under this legislation, counter-narcotics enforcement responsibility is given to the Ministry of Interior (MVD), the State Security Service (SBU), the State Customs Service, and the Border Guards. In 1993, the Drug Enforcement Department (DED) was created, an independent department within the MVD (however, it still reports directly to the MVD). Cooperation between law enforcement agencies combating narcotics (mainly MVD, SBU, Customs Service and Border Guards) is improving; but is still severely hampered by conflicts over investigative jurisdiction.

The MVD has primary responsibility for counter-narcotic efforts. There is a Department for Combating Organized Crime (OC) within the MVD, as well as the DED. The DED has ultimate jurisdiction over drug cases and each oblast has a DED unit. In theory, the OC department investigates cases where there is an organized crime element, but lays claim to cases that should fall within the scope of the DED. Sharing of cases is flexible and the DED and MVD are reported to work well together (Seaman, 1997). As is the case with other MVD departments and the Customs Service, if a case takes on aspects of international drug smuggling, the investigation must be turned over to the SBU. In many such cases, joint SBU/MVD task forces will be formed.

The SBU is primarily charged with intelligence gathering and has a special unit that focuses on international drug trafficking and money laundering. The central office in Kiev conducts its own

enforcement operations and supervises SBU units that work at the oblast level. Every case involving drugs smuggled across the Ukrainian border falls under SBU jurisdiction.

The State Customs Service is an independent government agency and operates on land borders, airports, and seaports. The Customs Service has exclusive anti-drug operational jurisdiction within their control areas. Customs has preliminary investigative authority, but is required to transfer all cases of international drug smuggling to the SBU. Customs can't conduct intelligence gathering, but cooperates with the SBU and MVD. It does, however, have the authority to conduct controlled deliveries.

The Border Guard, formerly part of the KGB, was created as a separate agency in November 1991. Its staff are stationed at borders and check passport to prevent illegal migration. If they find drugs, they must turn the case over to the State Customs Service

The national anti-narcotics coordinating council, established in 1994 in the Cabinet of Ministers to coordinate the efforts of government and public organizations to combat drugs, is drafting a 2001-2005 anti-drug program. Although many of the steps articulated under the previous anti-drug plans (1994-1997, 1998-2000) were restrained by lack of funds, the MVD is giving top priority to anti-drug actions and is providing overall support.

Ukraine's efforts to implement its anti-drug plans have been hampered by the severe lack of funding for law enforcement and social agencies. Nevertheless, the Ministry of Health and the Ministries of Education and Culture are working with the MVD to intensify national anti-drug educational programs.

Ukrainian law enforcement agencies were successful in seizing approximately 29 tons of narcotic drugs during the first eleven months of 2000 (U.S. Department of State, 2001). This included seizures of 12 kilograms of heroin, 6.5 tons of marijuana, 110 kilograms of opiates, 10 kilograms of hashish, 22 tons of opium poppy straw, 26 doses of ecstasy and 4,707 doses of LSD. The MVD was successful in uncovering 1,572 drug-dens as well as 78 laboratories, some of which were producing synthetic drugs. The government conducted a large-scale operation to destroy poppy and hemp fields. In 2000, government authorities destroyed 195,000 square meters of opium poppy fields, 34,000 square meters of

marijuana and 15,000 square meters of wild cannabis[4]. Law enforcement bodies succeeded in breaking up 2,341 criminal groups involved in drugs activities, with most groups consisting of just a few people (U.S. Department of State, 2001).

Ukraine is a party to the 1988 UN Drug Convention as well as to the agreement of the police forces of the members of the Commonwealth of Independent States, which provides for coordination of operational drug control activities. Bilateral anti-narcotics agreements were signed with the security services of Belarus and Russia. Intergovernmental agreements providing for joint enforcement efforts against illicit drug trafficking have been signed with the Czech Republic, Austria, Hungary, Poland, Bulgaria, Romania, Slovakia, and the United Kingdom. The Ukrainian parliament ratified the U.S.-Ukraine Mutual Legal Assistance Treaty in criminal matters in September of 2000[5]. The number of international legal instruments signed in a short period of time and the growing numbers of bilateral agreements demonstrate Ukraine's willingness to cooperate internationally.

[4] Local consumption absorbs most of what is grown.

[5] Ukraine signed the UN Convention Against Transnational Organized Crime in December of 2000.

3. Heroin Trafficking From Southwest Asia

The break up of the former Soviet Union offered heroin traffickers alternatives to their traditional – and heavily monitored – transshipment routes through Pakistan and Iran. Less stringent border controls, political and economic instability, corruption, and developing drug markets in the region have made Central Asia an increasingly important transit zone for opium and heroin shipments out of Afghanistan.

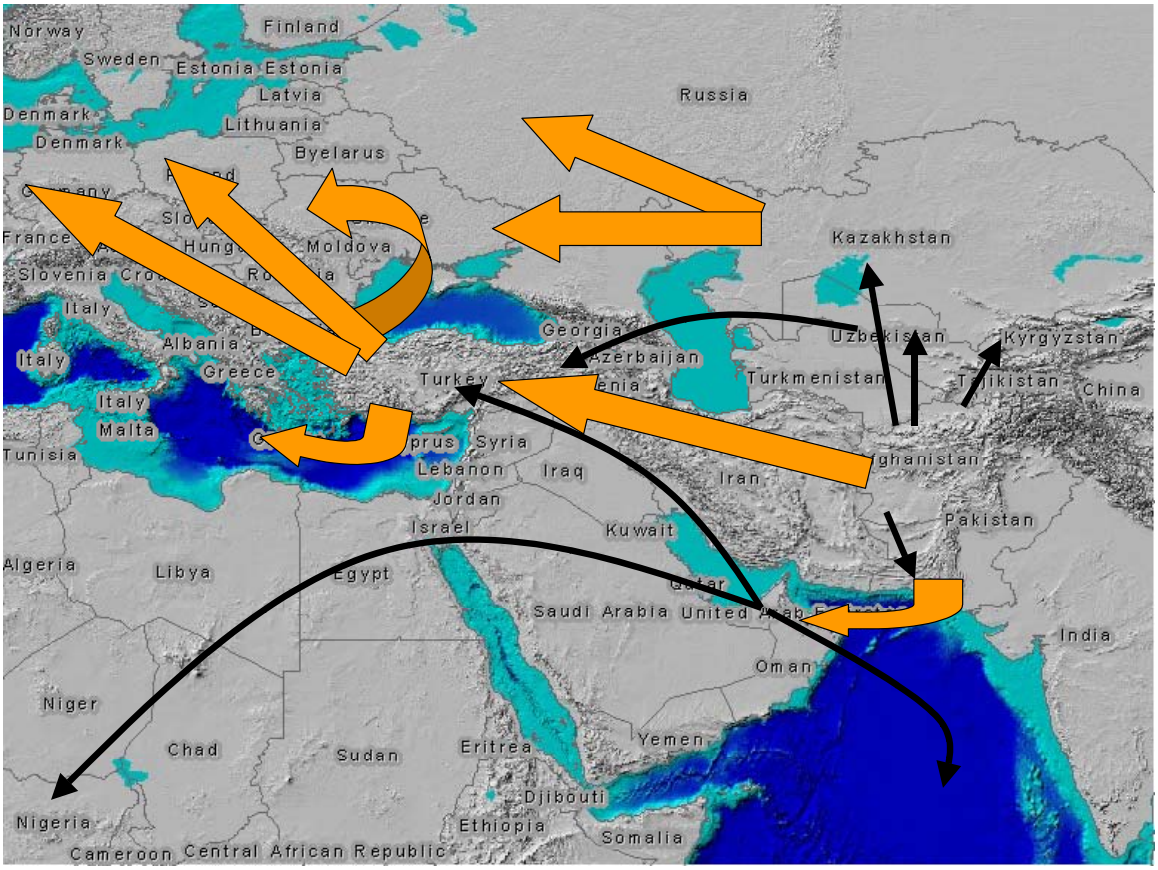
How does Afghan heroin reach western markets? Figure 3 details the routes. Most opium and heroin transiting Central Asia enters directly from Afghanistan into Turkmenistan or Tajikistan. Traffickers take advantage of cross–border ethnic ties to facilitate their operations. The drugs are typically driven through border check points concealed in truckloads of agricultural or consumer goods or smuggled through remote areas by foot or on rafts. Some heroin is also smuggled by air from Afghanistan to Central Asian countries on private aircraft or commercial airlines owned by one of Afghanistan's warring factions.

Once in the Central Asian region, drugs are moved west overland in vehicle convoys or railcars through Central Asia. From there they are moved across the Caspian Sea, over the Caucasus Mountains, then into Turkey. Every year, this route is taken by approximately 1,5 million trucks, 250,000 passenger trains, and four million private cars (Boekhout van Solinge, 1998). The most common way to transport heroin is in relatively small quantities of 20 to 50 kilograms, hidden in trucks. Considering the volume of land conveyances on this route and the fact that it takes hours to an entire day to search a truck, it is virtually impossible to really counteract smuggling along this route. It is estimated that 75 per cent of the heroin smuggled into Europe is transported along this route (Boekhout van Solinge, 1998).

From Turkey, heroin follows the Southern Balkan route (Turkey-Yugoslavia-Albania-Western and Northern Europe) hidden in sealed commercial trucks. Heroin is also smuggled via the Northern Balkan route across the Black Sea to ports in Ukraine, transferred to cars or trucks, and then moved into Poland.

Figure 3

Heroin Smuggling Routes From Southwest Asia



Another route out of Afghanistan follows the old Silk Road into Russia, the Baltic States, Poland, Ukraine, and the Czech Republic. Nigerian traffickers use the mail or Ukrainian women operating as "mules" (usually into Borispol airport near Kiev) to smuggle heroin into Ukraine. In 1995-1996, Ukrainian law enforcement detected ten Nigerian gangs that used commercial activities as a front for heroin trafficking (Seman, 1997).

Figure 4 displays the main trafficking routes and conveyances into and out of Ukraine.

Figure 4

Main Drug Trafficking Routes in Ukraine

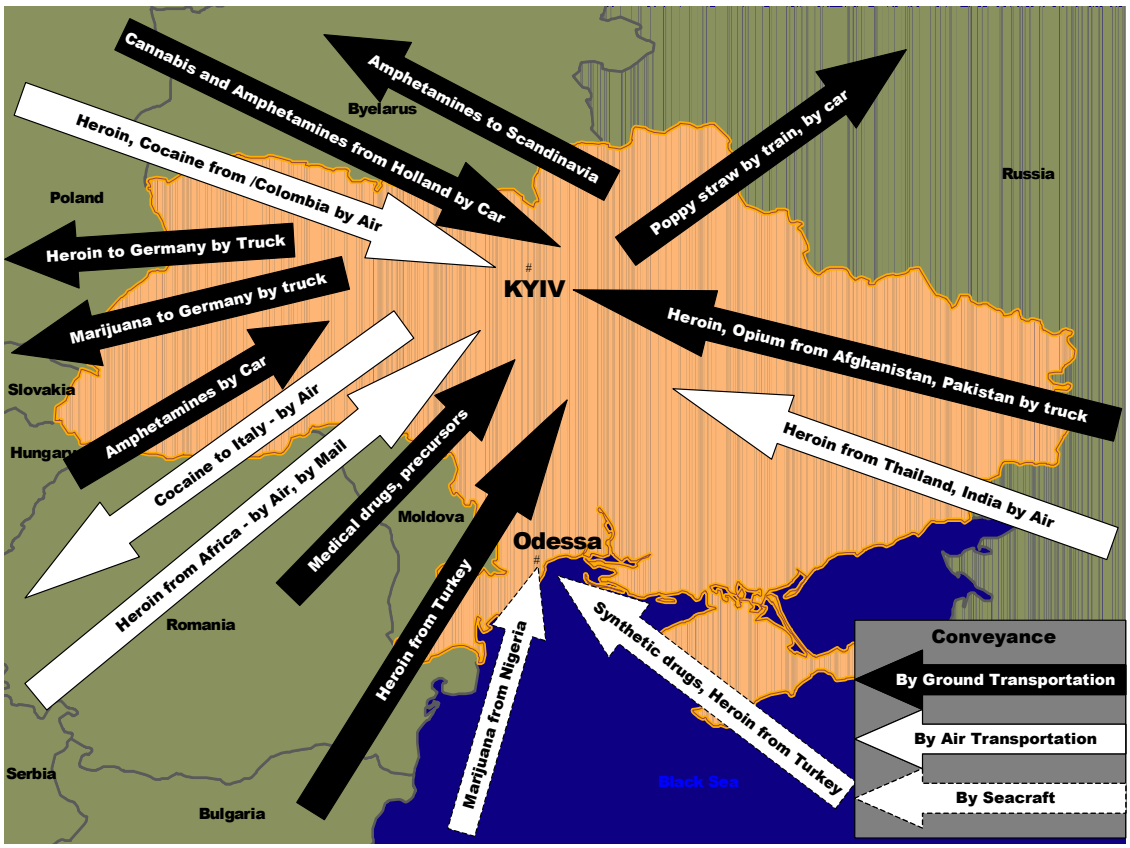


Table 2 presents heroin seizure statistics for Ukraine. While seizures are inherently biased measures of drug flow, they are a proxy for trends. In April 2002, there was a record 200kg heroin seizure in Odessa (Ukraine Today, April 2002) found aboard a ship arriving from an Asian country, with a black market value if USD$ 20 million. The Ukrainian domestic drug market is relatively poor, so they are not the intended consumers of heroin transiting the country. This most recent seizure and the general increase in heroin seizures indicate that Ukraine is indeed a transit country.

In Table 3, we present data that Khruppa collected by examining investigative case files for the period 1995-1998. The table details cases where all aspects of the smuggling route where know. The paucity of data in the table highlights how difficult it is for law enforcement to quantify smuggling.

Table 2

Heroin Seizures in Ukraine, 1995-2001 (kilograms)

Year	Amount Seized
1995	9.5
1996	4.0
1997	3.7
1998	8.9
1999	6.0
2000	12.0
2001	4.0[a]

[a] Represents the first nine months of 2001

Sources: UNODCCP 2000, INCSR 1999-2001

Table 3

Amount Smuggled in Known Cases of Heroin Transiting Through Ukraine, 1995-1998 (kilograms)

Year	Source Country	Transit Country	Transit Country	Receiving Country	Amount
1995	Iran (Teharan)	Ukraine (Yahotin)	Poland	Western Europe	8.7
1996	Turkey (Istanbul)	Ukraine (Yalta)	-	Russia (Vladivostok)	.5
1997	Russia (Moscow)	Ukraine	-	Bulgaria (Sophia)	.3
1998	Lithuania (Riga)	Belarus	Ukraine (Kharkiv)	Russia (Moscow)	.3
1998	Tajikistan	Ukraine (Kharkiv)		Western Europe	1.0
Total					**10.8**

Sources: M.S. Krhuppa

4. Estimates for the Amount of Heroin Transiting Ukraine

In this section we present tentative estimates of the amount of heroin that is trafficked through Ukraine. This is the first attempt at such a measurement and the estimate will mature as more data become available. For current purposes, we work backwards from consumption estimates for Western Europe (Crime and Narcotics Center, 2000)[6] and proceed with the notion that this demand is met almost exclusively by heroin from Southwest Asia. Consumption of illicit drugs is notoriously hard to estimate, so there is a low estimate, a high estimate, and a mean. Computations for 2000 are made for each level, as presented in Table 4.

Starting with European consumption, we want to work backwards to the amount that had to transit Ukraine[7] to meet that demand. First, we add seizures in Western Europe – this is the amount that must be smuggled into Western Europe to meet the demand. Of the 75 percent smuggled via the Balkan route, we assume that 25 percent of that transits through Ukraine. Of the 25 percent smuggled via the old Silk Road route, we assume that 25 percent of that is smuggled from Russia through Ukraine. To get the total amount transiting Ukraine, we add the amounts smuggled through Ukraine from each route, plus seizures in Ukraine to yield a low estimate of 8.9 metric tons, a mean estimate of 14.4 metric tons, and a high estimate of 20 metric tons.

It must be stressed that while the methodology is sound, the actual amounts are to be considered guesses, at best. The utility in this exercise lies in highlighting where better data are needed and to begin the process of estimation. Abt Associates has been improving its estimate of cocaine and heroin entering the U.S. for over ten years.

[6] Ideally, we should include consumption estimates for Eastern Europe as well, but these data are not available.

[7] Earlier we stated that 75 percent of Southwest Asian heroin bound for Western Europe is transported through Turkey then via the Balkan route. This leaves 25 percent transiting through the Silk Road route into Russia.

Table 4

Estimates of Heroin Transiting Ukraine, 2000 (kilograms)

	Low Estimate	High Estimate	Mean Estimate
Consumption in Western Europe	**22,000.0**	**66,000.0**	**44,000.0**
Seizures in Western Europe	13,612.7	13,612.7	13,612.7
Total that must be smuggled to Western Europe	**35,612.7**	**79,612.7**	**57,612.7**
Smuggled via Balkan routes (75%)	26,709.5	59,709.5	43,209.5
Of that, 25% smuggled through Ukraine	**6,677.4**	**14,927.4**	**10,802.4**
Silk Road Route (25%)	8,903.2	19,903.2	14,403.2
From Russia, through Ukraine (25%)	**2,225.8**	**4,975.8**	**3,600.8**
Seized in Ukraine	12.0	12.0	12.0
Total through Ukraine	**8,915.2**	**19,915.2**	**14,415.2**

7. Conclusions

The importance of Ukraine to drug traffickers as a transit corridor to western and central Europe continues to increase. Drug smuggling is primarily the activity of organized criminal groups. A major law enforcement priority has got to be focused on breaking up these groups.

Compared to international standards, Ukraine does not yet have a serious drug problem. However, trafficking of narcotic drugs from Asia and South America to European destinations through Ukraine is increasing as drug traffickers look for new ways to circumvent western European customs and border controls. Demand reduction and treatment of drug abusers are problems requiring close attention.

Improvements need to be made in the estimate of heroin transiting Ukraine. This can be done with better consumption estimates (the current model does not include any consumption along smuggling routes) and improved intelligence on the proportion of heroin in each route that transits Ukraine.

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Appendix A: Heroin Cultivation and Production

Opium poppy is an annual plant that flourishes in tropical or semi-tropical areas. When growing conditions are ideal, plants can be harvested twice a year. Harvesting consists of cutting unripe seed capsules for the poppy plants, releasing a milky fluid, that, when collected and dried, forms raw opium. Opium is consumed in large quantities in many producing countries.

Processing raw opium into heroin powder is a three-stage process: from morphine base, to heroin base, to heroin power. First the raw opium is soaked, heated, and filtered to produce a brown powder. Morphine base is then obtained by compressing the brown power into bricks. To create heroin base, the morphine base is mixed with an acetylating agent, boiled and cooled, thinned with water, and filtered. Then, a second solution of water and sodium carbonate is added and the combination is again filtered, and then dried. The resultant gray power, heroin base, is insoluble in water and thus not suitable for injection. Further refinement of the heroin base yields white heroin powder, which can be injected. Yields at each of the three stages can vary depending on the quality of the chemicals and the experience of the chemist. With the exception of the acetylating agent, the processing materials are readily available wherever opium is grown.

Estimating Heroin Cultivation and Production

Cultivation estimates are derived from random sampling techniques, which approximate the total amount of land under poppy cultivation.[8] The Crime and Narcotics Center (CNC) uses satellites to image a sample of land under cultivation and scales this to the total growing area. An estimate for potential opium yield[9] is calculated by multiplying the cultivation estimate by an average opium yield. The average is obtained from opium yield surveys conducted in poppy fields around the word.

[8] The advantage of statistically random samples is that only a small percentage of a growing area has to be selected for analysis.

[9] Potential amounts overstate the actual availability. These amounts assume that all hectares that are under cultivation are actually converted to heroin –it does not take into account such things as crop spoilage or source country consumption.

Producing Regions

Heroin is supplied principally from Southwest Asia (Afghanistan and Pakistan), Southeast Asia (Burma, Laos, and Thailand -- the Golden Triangle), and Latin America (Mexico and Colombia). Analysts agree that presently Colombia supplies the lion share of the United States' heroin market, with Mexican heroin running slightly less. Ninety percent of the U.S. demand is met by Colombia and Mexico. In 2000, approximately 13.1 of 14.4 metric tons of heroin available at U.S. borders originated in Latin America (Bruen, 2002). Thus, South American heroin primarily supplies the Americas and does not significantly influence heroin flow through Ukraine. (Although there is some evidence of plane shipments of heroin from Colombia to Ukraine, but this does not appear to be a significant trend).

Potential production of Southeast Asian heroin has dropped from about 234 metric tons in 1996 to 109 metric tons in 2000. Of this, analysts conclude that approximately 1 metric ton is shipped to the U.S. (Bruen, 2002), almost exclusively to the West Coast through transit points in China and Thailand. The overwhelming majority of opiates produced in the Golden Triangle are consumed locally and in China, which makes up the world's largest heroin market. Annual heroin consumption in Southeast Asia is about 35 metric tons and upwards of 40 metric tons in China. Hong Kong, Taiwan, and Canada consume about 2 metric tons each of Southeast Asian heroin per year, and Australian users consume between 6 and 7 metric tons annually. This leaves about 16 metric tons of Southeast Asian heroin unaccounted for. When we consider international seizures, distribution to other non-European countries, eradication, licit use, abandoned fields, etc., we can ignore Southeast Asian heroin as being of significance to Ukraine as a transit country.[10]

Based on law enforcement intelligence sources and analysis of heroin seizures in Europe, it is clear that the region's heroin demand is met almost exclusively from the Southwest Asia region. Analysts agree that European users consume between 22 and 66 metric tons of heroin a year. Data from the European Monitoring Center for Drugs and Drug Abuse indicate the total heroin addict population in

[10] The *2000 Global Heroin Threat* does state that "Small amounts of Southeast Asian heroin go to Western Europe", but it further states that "Europe's largest heroin demand is met almost exclusively by the Southwest Asia source region."

Europe is between 1 and 1.5 million people. Hard-core users are using between 60 and 120 milligrams a day of pure heroin. "Virtually all of Western Europe's heroin demand is met by Southwest Asian sources in 1997, according to Interpol, 90 percent of the heroin seized in Europe came from Southwest Asia. All samples of heroin tested by Germany's national drug testing laboratory in recent years were linked to Southwest Asia, according to DEA" (Global Heroin Threat, 2000).

Southwest Asian Heroin

Skyrocketing opium production and the development of a significant trafficking infrastructure in Afghanistan and Pakistan made Southwest Asia the world's leading source of heroin. Table 1 details the potential amount of heroin produced in Southwest Asia from 1997 through 2001. During the period 1997 to 2001, there was a 65 percent increase in the amount of heroin available to world markets.

Afghanistan

Afghan opium yields have increased dramatically since the mid-1980s. Up until 2001, Afghanistan was firmly entrenched as the world's largest opium producer. Helmand Province is the largest producing region – it produced 54 percent of the Afghan opium crop and was responsible for 39 percent of the world illicit opium supply. Most Afghan poppy is grown on the best available agricultural land with productive soils, irrigation, and fertilizer. Irrigation has helped to minimize the effects of regional drought.

In July 2000, the Taliban announced a ban on opium poppy cultivation and the effect has been to dramatically decrease production for 2001, as shown in Table A1, below. Afghanistan has been the largest producer in the world since 1998, but by 2001 poppy had been virtually eliminated. Opium prices shot up at least tenfold within six months of the announcement of the ban as the market reacted to the expected lack of a new crop. Yet, production and trafficking continued, relying on stockpiles from previous years.

Table A1

Southwest Asian Poppy Cultivation and Potential Production

		1997	1998	1999	2000	2001
Cultivation	Afghanistan	39,150	41,720	51,500	64,510	1,685
	Pakistan	4,100	3,030	1,570	515	213
	Total (hectares)	**43250**	**44750**	**53070**	**65025**	**1898**
Potential Opium	Afghanistan	2184	2340	2861	3656	74
	Pakistan	85	66	37	11	5
	Total (metric tons)	**2269**	**2406**	**2898**	**3667**	**79**
Potential Heroin	Afghanistan	2184	2340	2861	3656	74
	Pakistan	85	66	37	11	5
	Total (metric tons)	**2269**	**2406**	**2898**	**3667**	**79**

A previously minor producing area (Badakhshan) under Northern Alliance control has become the major growing area. There are indications that farmers in the area are poised to increase cultivation next season and some have attempted to plant a second crop in the summer after the first crop was harvested[11]. And indeed, preliminary figures for 2002 (United Nations, 2002) indicate that cultivation of poppy has increased four-fold in this area.

Pakistan

Pakistan has achieved its goal of dramatically reducing poppy cultivation in all growing areas but one. Farmers will be under increased pressure to return to poppy cultivation in 2002 because of the potential profits from steep prices, caused by the ban in Afghanistan. The Pakistan government is determined to prevent a resurgence of cultivation. The area most susceptible to returning to poppy

[11] The second crop is not included in the 2001 estimates and it is unclear whether it can be successful in Badakhshan's relatively short growing season.

cultivation is the Dir District because a United Nations Office for Drug Control and Crime Prevention crop substitution project ended there in 2001. Farmers in this area held out the longest against crop control efforts and if government programs and support are not continued, some farmers may return to poppy cultivation.

Uncertainty in Production Estimates

There is considerable uncertainty in opium/heroin cultivation and production estimates. Cultivation data are based on satellite imagery, and this is the most reliable part of the estimation process. But, areas to be imaged are selected using sample survey techniques and are subject to some amount of error. Cultivation figures are published as point estimates, rather than with confidence intervals. Thus, it is difficult to know the magnitude of the statistical error for these estimates.

Eradication and seizure data come primarily from the governments of the opium/heroin producing countries and these data are often dubious. Further, there is considerable source-country consumption of opium/heroin; these estimates are subject to their own set of uncertainties. Finally, conversion factors for intermediate steps in the production process are also estimated.